NATIONAL TRANSPORTATION SAFETY BOARD
Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594

July 29, 2003

MATERIALS LABORATORY FACTUAL REPORT Report No. 03-082

A. ACCIDENT

Place	:	Tillamook Inlet, Garibaldi, Oregon
Date	:	June 14, 2003
Vehicle	:	SPV Taki-Tooo
NTSB No.	:	DCA03MM035
Investigator	:	Rob Jones, MS-10

B. COMPONENTS EXAMINED

Propeller

C. DETAILS OF THE EXAMINATION

An overall view of the aft side of the propeller from the Taki-Tooo is shown in figure 1. The propeller was submitted to document any damage. For ease of reference, the propeller blades have been numbered “1” through “4” as shown in figure 1.

The tip of each blade was curled in the forward direction. The total angle of the curl and the area over which the curl occurred increased in the counter clockwise direction (aft looking forward) from blade “1” through blade “4”, with damage over about ¾ inch on blade “1” and over about 1.5 inches on blade “4” (see figure 2). The aft side of the blades did not contain any type of scoring marks or scraping damage associated with the curls. The curl damage was consistent with contact of the propeller with a soft bottom while under power.

Additional damage was also noted on blade “1”. Two areas of local deformation (approximately dime-sized) were noted on this blade, one approximately midway along the leading edge, and one on the trailing edge side of the curl. Forces acting on the forward side of the blade created these deformation areas, and the resulting deformation was in the aft direction. No evidence of impact from hard material was noted in these areas. The outer one third to one half of blade “1” was also bent in the aft direction, resulting in the tip being approximately 0.75 inch further aft than the tips of the other blades.

James F. Wildey II
Supervisory Metallurgist

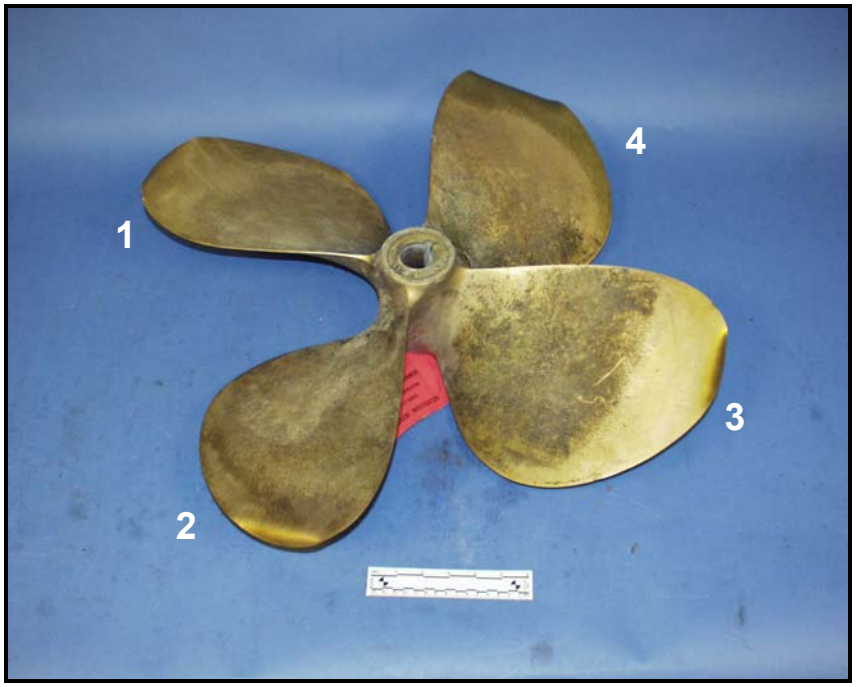

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Figure 1. Overall view of the aft side of the propeller, with the blades labeled "1" through "4".

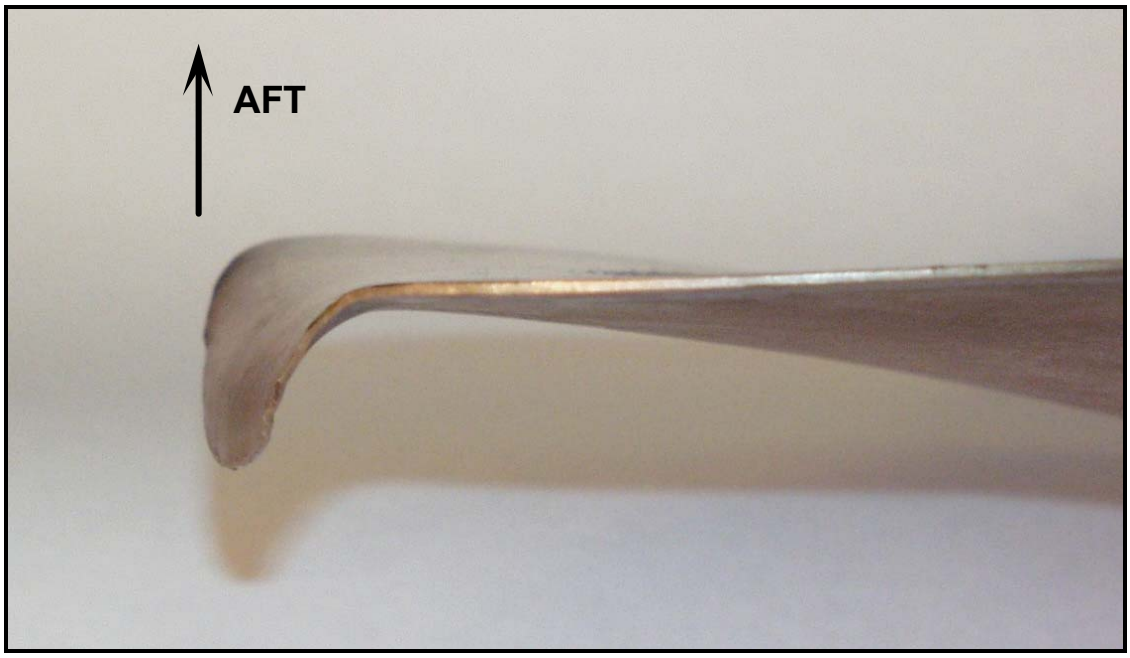

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Figure 2. View of the curl damage on blade "4".